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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/941,655	08/30/2001	Hiroshi Kanazawa	381KA/50358	7423

7590 03/25/2005

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EXAMINER

ELKASSABGI, HEB A

ART UNIT PAPER NUMBER

2834

DATE MAILED: 03/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/941,655

Applicant(s)

KANAZAWA ET AL.

Examiner

Heba Elkassabgi

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5-11,13-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3,5-9,11,13 and 14 is/are allowed.
- 6) ☒ Claim(s) 10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kusase (US Patent 5132581) and further in view of Kusase et al. (US Patent 5483116).

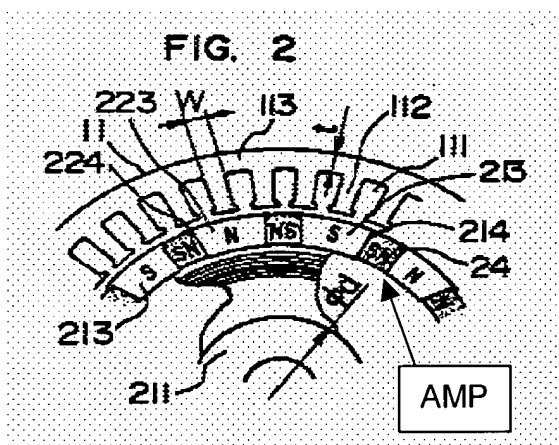
Kusase ('581) discloses above the claimed invention in addition to each claws (213,223) has an auxiliary magnetic pole portions (AMP) formed at circumferentially lateral ends, in which the auxiliary magnetic pole portions (AMP) form the opposing lateral surfaces of the claws (213,223) adjacent the permanent magnets (24) and have substantially the same rectangular shape as the magnetic pole surfaces with which they are in contact such that the lateral surfaces of the claws (213,223) are in contact with the whole of the magnetic pole surfaces of the permanent magnets (24). However, Kusase ('581) does not disclose a central portion of the claw having a triangular or trapezoidal shape.

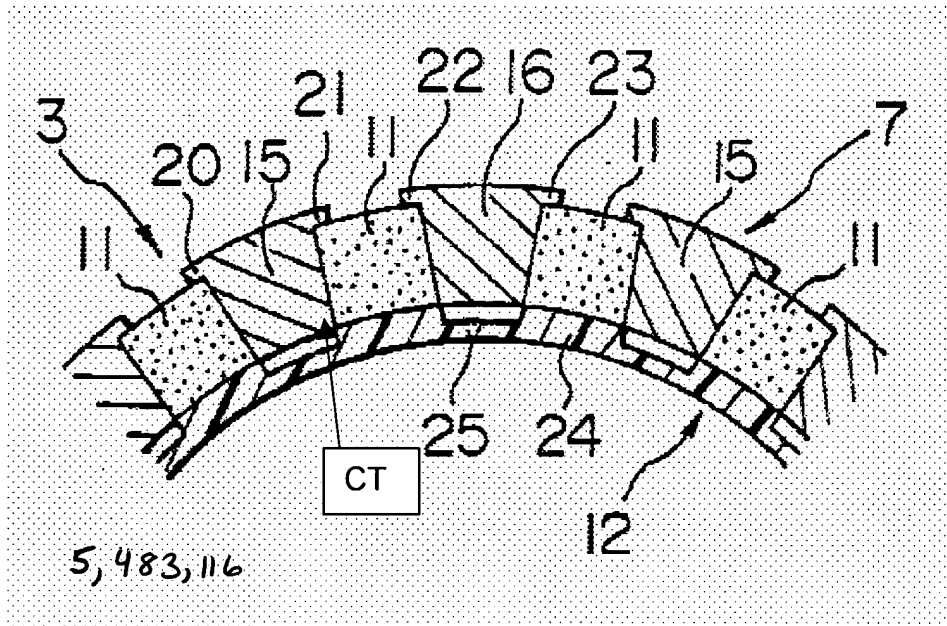
Kusase et al. ('116) discloses in figures 1-3 a rotor (3) with claw-type magnetic poles (15) having a circumferentially central portion of each of the claws tapered (CT) towards a tip of each respective claw (15) and the circumferentially central portion has a substantially triangular shape in a radial section plane along an axial direction of the

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rotor (3) and the claws (15) project radially inwardly from the circumferentially central portion of the claws (15).

It would have been obvious to one of ordinary skill in the art to combine the rotor structure of Kusase ('581) with the rotor claw pole structure of kusase et al. ('116) in order for to diminish the magnetic flux leakage between the claw-like poles.

5,132,581



Allowable Subject Matter

The following is an examiner's statement of reasons for allowance:

Independent claim 1 is allowed over the prior art which does not disclose a rotor having a pair of claw-type magnetic poles which are arranged in an opposed relation, and each of which has a plurality of claws that are cantilevered at a proximal end and extend axially to a distal end opposite the proximal end and in combination with each claw has a circumferentially central portion, with a radial thickness that is tapered along an axial direction and is thicker at a proximal end than at a distal end.

Independent claim 11 is allowed over the prior art which does not disclose a rotor having a claw-type magnetic poles; in which each of the claws has a proximal end portion at which the claw is cantilevered and that a distal end portion has a radial thickness that is thinner than the proximal end portion, and in combination with each

claw having a radial thickness that is greater than the radial thickness of the distal end portion of the claws.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

Applicant's arguments filed 12/23/2004 have been fully considered but they are not persuasive. In response to applicant's argument that the references of Kusase and Kusase et al. that fails to show certain features as stated in applicant's remarks of 12/23/2004 in pages 11-12 as restated below and in applicant's claim language of claim 10.

"...circumferentially central portion of each of the claws is tapered toward a tip of the claw, such that the circumferentially central portion has a substantially triangular or trapezoidal shape in a radial section plane along an axial direction of the rotor, and furthermore that each of the claws has an auxiliary magnetic pole portions formed at circumferentially lateral ends thereof which project radially inwardly from the circumferentially central portion of the claws and have substantially the same rectangular shape as the magnetic pole surfaces with which they are in contact."

The Examiner respectfully disagrees with the applicant that both Kusase and Kusase et al. do not disclose the claimed features. However, as stated in the above rejection it is clear in the figures that Kusase and Kusase et al. do show the claim language in the attached above.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

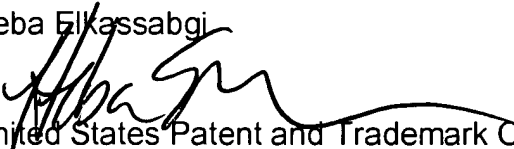
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Heba Elkassabgi whose telephone number is 571-272-2023. The examiner can normally be reached on Weekdays, 9:00 am to 7:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on 571-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Heba Elkassabgi


United States Patent and Trademark Office
Patent Examiner AU 2834
Class 310- Electrical Generator/Motor Structure


BURTON S. MULLINS
PRIMARY EXAMINER